



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,758	07/24/2006	Day Chahroudi	63463.000004	2583
21967 7590 12/11/2008 HUNTON & WILLIAMS LLP INTELLECTUAL PROPERTY DEPARTMENT 1900 K STREET, N.W. SUITE 1200 WASHINGTON, DC 20006-1109				
EXAMINER				
MARTINEZ, JOSEPH P				
ART UNIT		PAPER NUMBER		
2873				
MAIL DATE		DELIVERY MODE		
12/11/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/552,758

Applicant(s)

CHAHROUDI, DAY

Examiner

JOSEPH MARTINEZ

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8-25-08.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19-45 and 47-55 is/are rejected.
- 7) ☒ Claim(s) 18 and 46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date 12-6-06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's arguments, see p. 8-13, filed 8-25-08, with respect to the requirement for Election/Restriction of claims 1-49 have been fully considered and are persuasive. The requirement for Election/Restriction of claims 1-49 has been withdrawn.

Claim Objections

Claim 18 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim 18 has not been further treated on the merits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 and 14 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Byker et al. (6084702).

Re claim 1, Byker et al. teaches for example in fig. 1b, a light valve consisting

of: two cover layers (20, 70) at least one of which is transparent (20) and an optically active layer (50) between these cover layers, with the optically active layer consisting of: a polymer dissolved in a solvent (col. 12, ln. 14-17), with the polymer and the solvent reversibly forming finely divided separate phases upon heating to a specific temperature (col. 9, ln. 32-40), thereby reversibly turning the optically active layer from relatively transparent to relatively opaque (col. 4, ln. 26-38), characterized in that most of said polymer is formed between said cover layers by polymerizing a monomer which is dissolved in said solvent (col. 12, ln. 30-37).

Re claim 14, Byker et al. teaches for example, said polymer formed does not react with said solvent (col. 4, ln. 36-38), and/or oxygen (col. 17, ln. 37-43), and/or sunlight (col. 18, ln. 65).

2. Claims 24, 27, 28, 39, 47, 52 and 54 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Tonazzi et al. (5856211).

Re claims 24, 52 and 54, Tonazzi et al. teaches for example in fig. 1B, a process for making light valves consisting of: forming a seal (15) between two cover sheets (11, 12) at the circumference of the smaller sheet (11), optionally with fill and vent ports (13) in the seal (col. 6, ln. 2-3), and with the seal spacing apart the cover sheet (col. 5, ln. 64), thus forming a cavity (16), characterized by: injecting into said cavity a liquid (col. 5, ln. 41-44) which then becomes a solid layer (col. 5, ln. 46-50), with the

layer having a variable transmission of light (col. 1, ln. 18-20).

Re claim 27, Tonazzi et al. further teaches for example, said cover sheets are etched to improve the adhesion between said cover sheet and said solid layer (col. 14, ln. 65-66).

Re claim 28, Tonazzi et al. further teaches for example, a silane (col. 14, ln. 5-6) is applied to said cover sheet to improve the adhesion (col. 14, ln. 5-6) between said cover sheet and said solid layer (col. 14, ln. 5-6).

Re claim 39, Tonazzi et al. further teaches for example, said seal is made from a ribbon of adhesive (col. 13, ln. 29).

Re claim 47, Tonazzi et al. further teaches for example, the processes are used to make architectural glazings that control unwanted solar heat or glare (col. 1, ln. 23-24).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 2-13, 15-17, 19-23, 25, 26, 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byker et al. (6084702).

Re claim 2, Byker et al. teaches for example, said monomer is soluble in said solvent (col. 12, ln. 15-20), at a temperature low enough that the heat of polymerization of said monomer does not raise to its phase separation temperature (col. 10, ln. 15-20) the solution consisting of said solvent, plus said monomer, plus the said polymer which is in the process of being formed from said monomer (col. 12, ln. 30-38).

But, Byker et al. fails to explicitly teach said monomer is at least 15% soluble in said solvent.

However, Byker et al. teaches for example, dissolving the thermochromic system (col. 12, ln. 45-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Byker et al. to teach said monomer is at least 15% soluble in said solvent, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Re claims 3 and 50, Byker et al. teaches for example, a crosslinking monomer which copolymerizes with said monomer, and which is added to so that polymerization

forms a crosslinked gel (col. 12, ln. 37-40).

But, Byker et al. fails to explicitly teach a crosslinking monomer with a functionality of two or more.

However, Byker et al. teaches for example, varying the additives in the thermochromic system (col. 18, ln. 60-67 to col. 19, ln. 1-5), in particular plasticizers and fillers.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Byker et al. to include a crosslinking monomer with a functionality of two or more in order to reduce the amount of additives to the thermochromic system.

Re claims 4-13, 15-17, 19-23, 25, 26 and 51, Byker et al. further teaches for example, varying the solvents (col. 12, ln. 14-19), additives (col. 18, ln. 60-67 to col. 19, ln. 1-5) and chemical composition (col. 4 to col. 13) of the thermochromic system and further teach varying the embodiments of compositions. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the various embodiments to teach the claimed limitations in order to provide greater versatility to transmit or reflect different types of light.

2. Claims 29-38, 40, 42, 43, 48, 49, 53 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tonazzi et al. (5856211).

Re claim 29, Tonazzi et al. further teaches for example, a silane (col. 14, ln. 5-

6).

But, Tonazzi et al. fails to explicitly teach a vinyl silane.

However, Tonazzi teaches the silane is a silane based primer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Tonazzi et al. to include vinyl silane, since silane based primers and vinyl silane are known equivalents and the selection of these would be within the level of ordinary skill in the art.

Re claim 30, Tonazzi et al. further teaches for example, said cover sheets are heated (col. 8, ln. 20-25).

But, Tonazzi et al. fails to explicitly teach heating to bond said silane to said cover sheets.

However, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Tonazzi et al. to teach that the heating is to bond said silane to said cover sheets in order to provide adhesion.

Re claims 31-38, 42, 48, 49, 53 and 55, Tonazzi et al. further teaches for example, varying the process of filling including, heating (col. 8, ln. 20-25), cooling (col. 8, ln. 20-25), injecting (col. 9, ln. 54-55), flushing (col. 12, ln. 45) and pumping

(col. 8, ln. 63-64) in various embodiments and further suggests varying the embodiments. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the various embodiments to teach the claimed limitations in order to provide versatility in processing in large scale.

Re claims 40 and 43, Tonazzi et al. further teaches for example, a sealant.

But, Tonazzi et al. fails to explicitly teach said seal is made from sealant that softens upon heating, and becomes a solid again on cooling.

However, Tonazzi et al. teach varying the material of construction of the sealant (col. 13, ln. 29).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Tonazzi et al. to include sealant that softens upon heating, and becomes a solid again on cooling, since epoxy type sealants and a sealant that softens upon heating, and becomes a solid again on cooling are known equivalents and the selection of these would be within the level of ordinary skill in the art.

3. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tonazzi et al. (5856211) in view of Byker et al. (6084702).

Re claim 41, Tonazzi et al. further teaches for example, the process as disclosed above.

But, Tonazzi et al. fail to explicitly teach the two cover sheets with said sealant

placed between them are placed in a roller press which is heated in order to soften and compress the said sealant in order to form the desired spacing between said cover sheets, and to bond said sheets together.

However, within the same field of endeavor, Byker et al. teaches for example two cover sheets with said sealant placed between them are placed in a roller press which is heated in order to soften and compress the said sealant in order to form the desired spacing between said cover sheets, and to bond said sheets together (col. 27, ln. 66-67 to col. 28, ln. 1-3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Tonazzi et al. with the process of Byker et al. in order to provide an improved seal.

4. Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tonazzi et al. (5856211) in view of Crawford et al. (6094290).

Re claims 44 and 45, Tonazzi teaches the process as disclosed above.

But, Tonazzi et al. fails to explicitly teach said outer seal is made with a sealant based on a saturated hydrocarbon liquid or solid polymer, with functionality for crosslinking.

However, within the same field of endeavor, Crawford et al. teaches for example, outer seal is made with a sealant based on a solid polymer (col. 4, ln. 22-23), with functionality for crosslinking

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Tonazzi with the sealant of Crawford et al. in order to provide a flexible sealant.

Allowable Subject Matter

Claim 46 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art taken alone or in combination fails to anticipate or fairly suggest the limitations of the claims, in such a manner that a rejection under 35 USC 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in dependent claim 46.

Specifically regarding claim 46, Tonazzi et al. (5856211) teaches the state of the art of a process for making light valves.

But, Tonazzi et al. fails to explicitly teach a combination of all the claimed features including said light valve on production machinery that has been designed for making double pane windows, and that has been modified for making said cavity thinner, and has been added on to enable injecting said liquid into said cavity, as claimed.

As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph P. Martinez whose telephone number is 571-272-2335. The examiner can normally be reached on M-F 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Joseph Martinez/
Primary Examiner
AU 2873
12-8-08